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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,398	12/01/2003	Gyoo Hwan Kim	27427.014.00-US	8893
30827	7590	01/06/2006	EXAMINER	
MCKENNA LONG & ALDRIDGE LLP			WILLIAMS, JOSEPH L	
1900 K STREET, NW			ART UNIT	
WASHINGTON, DC 20006			PAPER NUMBER	
			2879	

DATE MAILED: 01/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

3K

<b>Office Action Summary</b>	<b>Application No.</b> 10/724,398	<b>Applicant(s)</b> KIM, GYOO HWAN	
	<b>Examiner</b> Joseph L. Williams	<b>Art Unit</b> 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 November 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 20-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/14/05</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of claims 1-19 in the reply filed on 03 November 2005 is acknowledged.

Claims 20-22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 03 November 2005.

***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Specification***

3. The abstract of the disclosure is objected to because of the use of legalese language (i.e. comprises). Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 112***

4. Claims 14-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 14-16, the specification does not disclose the “deflection coil” having a diameter of 0.1 mm to 0.7mm (or 0.2 mm to 0.7 mm). The specification does support the diameter of the coil wire being 0.1 mm to 0.7mm (or 0.2 mm to 0.7 mm).

Appropriate correction is required.

For the purpose of this examination, the claims will be interpreted consistent with the Applicant’s specification, wherein the diameter of the coil wire is 0.1 mm to 0.7mm (or 0.2 mm to 0.7 mm).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 3 and 4, it is not clear what are the metes and bound of the claims. It is not clear how copper is “main ingredient” of one coil, while aluminum is the “main ingredient” of another coil, but both coils comprise an aluminum core, a copper layer surrounding the core, and an insulating layer surrounding the copper layer.

Appropriate correction is required.

Since the Examiner cannot ascertain the metes and bounds of claims 3 and 4, there will not be an art rejection forthcoming in this Office Action.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 6-8 and 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Miyazaki et al. (US 6,650,040).

Regarding claim 6, and similar to claim 1 above, Miyazak ('040) teaches in figures 1-6 and the corresponding text a cathode ray tube (3) comprising: a front glass panel (1); a funnel (8) connected to the panel, thereby forming a vacuum tube (no number); an electron gun (7) emitting electron beams (6); and a deflection yoke (9) deflecting the electron beams emitted from the electron gun in the horizontal and vertical direction; wherein the deflection yoke comprises: a deflection coil (11) wound of a coil wire (16) deflecting the electron beams; a core (14) reinforcing a magnetic field generated around the deflection coils wherein the deflection coils comprises: an aluminum core; an insulating layer including an insulator at a predetermined thickness surrounding the aluminum core.

Regarding claim 7, Miyazak ('040) teaches the deflection coil is a horizontal deflection coil or a vertical deflection coil.

Regarding claim 8, Miyazak ('040) teaches the deflection coil is a saddle type.

Regarding claims 14-16, Miyazak ('040) teaches that the deflection coil wire has a diameter of .24 mm, and can be used for a TV or monitor.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 5-13, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokita et al. (US 4,749,975) (newly cited) in view of CN 1230754 and CN 2205047Y, both of record by Applicant.

Regarding claim 1, Tokita ('975) teaches in figures 1-5 and the corresponding column and line numbers, a cathode ray tube (11) comprising: a front glass panel (13); a funnel (15) connected to the panel, thereby forming a vacuum tube (12); an electron gun emitting electron beams (19); and a deflection yoke (21) deflecting the electron beams emitted from the electron gun in the horizontal and vertical direction, wherein the deflection yoke comprises: and a deflection coil (22 and 25) wound of a coil wire deflecting the electron beams.

Tokita ('975) does not disclose the coil wire has a core reinforcing a magnetic field generated around the deflection coil, and the deflection coil wire comprises: an

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aluminum core; a copper layer surrounding the aluminum core; and an insulating layer surrounding the copper layer.

Further regarding claim 1, CN ('754) teaches a coil wire comprised of an aluminum core and a copper layer surrounding the aluminum core for the purpose of having a wire with high conductivity and a cost greatly lower than that of copper wire.

CN ('754) does not disclose an insulating layer surrounding the copper layer.

Further regarding claim 1, CN ('047Y) teaches wrapping an adhesive and an insulating material around a wire for the purpose of improving the ease of use of an electric wire.

Hence it would have been obvious at the time the invention was made to use the adhesive and insulating material of CN ('754Y) around the wire of CN ('754), then use the combined wire in the CRT of Tokita for the purpose of improving the ease of use of an electric wire and having a wire with high conductivity and a cost greatly lower than that of copper wire.

Regarding claim 2, CN ('047Y) teaches the deflection coil wire further comprises a bonding layer (read adhesive).

The reason for combining is the same as for claim 1 above.

Regarding claim 5, Tokita ('975) teaches the deflection yoke further comprises a holder (read mold, (23)) for insulating the horizontal and vertical deflection coils.

Regarding claim 6, and similar to claim 1 above, Tokita ('975) teaches 6 a cathode ray tube (11) comprising: a front glass panel (13); a funnel (15) connected to the panel, thereby forming a vacuum tube (12); an electron gun (19) emitting electron beams; and a deflection yoke (21) deflecting the electron beams emitted from the electron gun in the horizontal and vertical direction; wherein the deflection yoke comprises: a deflection coil (22 and 25) wound of a coil wire deflecting the electron beams; a core (24) reinforcing a magnetic field generated around the deflection coils.

Tokita ('975) does not disclose the deflection coil wire comprising an aluminum core; an insulating layer including an insulator at a predetermined thickness surrounding the aluminum core.

Further regarding claim 6, CN ('754) teaches a coil wire comprised of an aluminum core and for the purpose of having a wire with high conductivity and a cost greatly lower than that of copper wire.

CN ('754) does not disclose an insulating layer.

Further regarding claim 6, CN ('047Y) teaches wrapping an adhesive and an insulating material around a wire for the purpose of improving the ease of use of an electric wire.

Hence it would have been obvious at the time the invention was made to use the adhesive and insulating material of CN ('754Y) around the wire of CN ('754), then use the combined wire in the CRT of Tokita for the purpose of improving the ease of use of an electric wire and having a wire with high conductivity and a cost greatly lower than that of copper wire.

Regarding claim 7, Tokita ('975) teaches the deflection coil is a horizontal deflection coil or a vertical deflection coil.

Regarding claim 8, Tokita ('975) teaches the deflection coil is a saddle type.

Regarding claim 9, Tokita ('975) teaches the deflection coil is a toroidal type.

Regarding claim 10, CN ('047Y) teaches the deflection coil further comprises a bonding layer with adhesives (read tape) being formed around the circumference of the insulating layer.

The reason for combining is the same as for claim 6 above.

Regarding claim 11, Tokita ('975) teaches the deflection coil is a horizontal deflection coil or a vertical deflection coil.

Regarding claim 12, Tokita ('975) teaches the deflection coil is a saddle type.

Regarding claim 13, Tokita ('975) teaches the deflection coil is a toroidal type.

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Regarding claim 17, CN ('754) teaches that the aluminum wire has a cylindrical shape (it is known in the art that wires are usually cylindrically shaped unless otherwise taught).

The reason for combining is the same as for claim 6 above.

Regarding claim 19, Tokita ('975) teaches the deflection yoke further comprises a holder (read mold (23)) for insulating the horizontal and vertical deflection coils.

7. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tokita et al. (US 4,749,975) in view of CN 1230754 and CN 2205047Y as applied to claim 6 above, and further in view of Ohtsu et al. (US 4,853,588).

Regarding claim 18, Tokita ('975) in view of CN ('754) and CN ('047Y) discloses all of the claimed limitations except for the use of an auxiliary coil.

Further regarding claim 18, Ohtsu ('588) teaches a cathode ray tube with an auxiliary coil for the purpose of reducing the intensity of externally leaking magnetic field (reduce unwanted EM radiation).


Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the auxiliary coil of Ohtsu in the CRT of Tokita in view of CN ('754) and CN ('047Y) for the purpose of reducing the intensity of externally leaking magnetic field (reduce unwanted EM radiation).

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Williams whose telephone number is (571) 272-2465. The examiner can normally be reached on M-F (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Joseph L. Williams  
Primary Examiner  
Art Unit 2879